

Appl. No. 10/070,529
Amdt. Dated January 21, 2004
Response to Office Action of May 12, 2003

REMARKS:

In making the amendments shown above, care has been taken to ensure that the claims remain supported by the specification and that no new matter has been introduced.

The renumbering of the claims by the examiner has been adopted in the claims as set forth above.

It is submitted that the amendments above address the Section 112 issues raised by the Examiner. It is noted that the claims have been amended to reflect the fact that the cooling chamber is connected to the tundish; the immersion tube is arranged within the tundish, surrounds the outlet opening and is arranged concentrically with the outlet opening; the annular gap is formed between the immersion tube and the tundish; the guide body is arranged in the region of the nozzle mouth of the lance; and the coolant outlets are arranged to eject coolant into the cooling chamber. It is submitted that the magnetic separator is an element well known in the art, and depiction of the element in the drawings is not necessary for practice of the invention by one skilled in the art.

As to the Section 103(a) rejection, Edlinger, U.S. Pat. No. 6,318,123 discloses a device for atomizing and granulating liquid oxidic slag, comprising a slag tundish having an outlet opening into which a lance for a propellant jet opens and to which a cooling chamber is connected, said outlet opening being surrounded by an immersion tube arranged concentrically with said outlet opening while forming an annular gap. In contrast to the instant invention, Edlinger does not disclose a lance that is adjustable in height direction and Edlinger does not

disclose a guide body capable of being adjusted in the axial direction of the lance and arranged in the region of the nozzle mouth of the lance for deflecting the propellant jet in the radial direction.

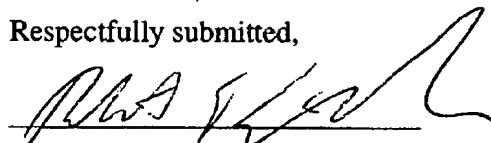
Wessel discloses a kind of guide body used to deflect propellant gas in the radial direction. However, neither disclosed in nor suggested by the combined cited art is the instant invention's nonobvious combination of a guide body being adjusted in the axial direction of the lance, and a lance being adjustable in the height direction. Thus, both the lance and the guide body are adjustable in the height direction. This is very useful in influencing the parameters of atomization in broad ranges. For example, placing the lance closer to the slag outlet opening leads to more immediate contact of the propellant gas with the slag, which can be advantageous, depending on the viscosity of the slag or the thickness of the slag layer flowing out of the tundish. Placing the lance in a more retracted position can also be advantageous, depending on the flow conditions and temperature of the slag. In view of these advantages, it is respectfully submitted that the combination of a height adjustable lance with a height adjustable guide body is not obvious over Edlinger in view of Wessel.

DEPOSIT ACCOUNT AUTHORIZATION. The Commissioner is hereby authorized to charge the fees associated with this communication to our firm's Deposit Account in accord with the enclosed fee transmittal form.

CONCLUSION. It is submitted that the invention is presented in clear and concise patentable terms and the application is in condition for allowance. Prompt, favorable treatment of the application is respectfully requested. The Examiner is encouraged to call Robert J.

Schneider at the direct number (312) 845-3919 with any questions that arise in connection with this application.

Respectfully submitted,




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Dated: January 22, 2004
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CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. § 1.8

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I hereby certify that the attached correspondence, namely: Petition for Revival under 37 C.F.R. § 1.137(b), Response to Office Action, and Fee Transmittal, was transmitted by facsimile on the date listed above, to the U.S. Patent Office at the facsimile number listed above, under 37 C.F.R. § 1.8.

Signature: 

Typed Name of Person Signing this Certificate: Brenda A. Walton

January 22, 2004

Date of Signature